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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/652,404

08/31/2000

Yoshinori Matsumoto

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11/05/2003

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EXAMINER

VUONG, BACH Q

ART UNIT

PAPER NUMBER

2653

DATE MAILED: 11/05/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/652,404

Applicant(s)

MATSUMOTO, YOSHINORI

Examiner

Bach Q Vuong

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____.
- 6) ☐ Other: _____

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-11 are rejected under 35 U.S.C. 102(b) as being anticipated by Matsumoto et al. (US 5,828,636).

Matsumoto et al., according to Figs. 1-11, shows an optical disk apparatus for recording and reproducing data on and from an optical disk comprising all features of the claimed invention.

Regarding claim 1, see Figs. 1-7 which show an optical disk apparatus for recording and reproducing data on and from an optical disk having a signal-recording surface comprising: optical head means (see optical system 101) for applying a light spot to the signal-recording surface of the optical disk; focusing control means (see circuit 108) for controlling the focusing operation the optical head means performs to place the signal-recording surface of the optical disk within a focal distance of the light spot supplied by the optical head means; evaluation-function generating means (see evaluator 110) for generating an evaluation function for correcting a focus value set in the focusing control means, in accordance with signals the optical head means has generated from light reflected from the optical disk; and control means (see controller 111 and circuit 112) for setting an initial focus value at a point where the evaluation function generated by the evaluation-function generating means is minimal or maximal, for setting an observation point deviating from the point where the initial focus value is set, and for

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correcting the initial focus value in accordance with changes in the evaluation function at the observation point.

Regarding claim 2, see Figs. 1, 6 and 7 which show an optical disk apparatus for recording and reproducing data on and from an optical disk wherein the evaluation-function generating means generates (see circuit 110) an evaluation function that changes like a quadratic function with a degree of defocusing, and the control means (see circuits 111, 112) sets the initial focus value at the point where the evaluation function is minimal.

Regarding claims 3 and 4, see Figs. 1, 6 and 7 which show an optical disk apparatus for recording and reproducing data on and from an optical disk where the control means increases or decreases the initial focus value in direct proportion to the evaluation function at the observation (see the respective disclosure of Fig. 6).

Regarding claims 5 and 6, see Figs. 1, 6 and 7 which show an optical disk apparatus for recording and reproducing data on and from an optical disk wherein the control means (circuits 107, 108, 111 and 112) corrects the focus value set in the focusing control means, every time the optical disk rotates a prescribed number of times, and every time the temperature in the apparatus changes by prescribed value.

Regarding claim 7, see Figs. 1, 6 and 7 which show an optical disk apparatus for recording and reproducing data on and from an optical disk wherein the control means (see circuits 107, 111 and 112) corrects the focus value set in the focusing control means, at regular time intervals.

Regarding claim 8, see Figs. 1, 6 and 7 which show an optical disk apparatus for recording and reproducing data on and from an optical disk wherein the control means corrects

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the focus value set in the focusing control means, in accordance with the light reflected from the optical disk (see circuits 106, 107, 111 and 112).

Regarding claim 9, see Figs. 1-11 which show a focus-value correcting method for use in focusing control for placing the signal-recording surface of an optical disk within the focal depth of a light spot an optical head has applied to the optical disk, comprising the steps of: setting an initial focus value at a point where an evaluation function (see evaluator 110) for correcting a focus value set in the focusing control means is minimal or maximal, the evaluation function having been generated from the optical head means (see head system 101) has generated from light reflect from the disk; setting an observation point deviating from the point where the initial focus value is set, and acquiring the first evaluation function at the observation point thus set; determining the timing at which to correct the focus value to perform the focusing control; acquiring the second evaluation function at the observation point at the timing determined; and correcting the initial focus value in accordance with a difference between the first evaluation function and the second evaluation function (see disclosure of Fig. 10 and 11 for details).

Regarding claim 10, see Figs. 1 and 3-5 which show an optical disk having a signal-recording surface that is placed within a focal depth of a light spot applied on the signal-recording surface by an optical head, during focusing control, the disk (see Fig. 3) having a servo region on the signal-recording surface; and an evaluation-function recording area provided at a prescribed part of the servo region, for recording evaluation functions that are applied to correct a focus value for use in the focusing control.

Regarding claim 11, see Figs. 3-5 which show an optical disk wherein data from which the evaluation functions are generated is recorded, in the form of pits, in the evaluation-function recording area.

Cited References


The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The cited references relate to an optical disk apparatus having optimized focus shift mechanism control.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bach Q Vuong whose telephone number is (703) 305-7355. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Korzuch can be reached on (703) 305-6137. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

BV
November 3, 2003


PAUL W. HUBER
PRIMARY EXAMINER